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LEARNING OBJECTIVES

1. *Define critical thinking as it relates to the sterile processing department.*
2. *Look at some of the characteristics of a critically thinking team member.*
3. *Discuss two tools that may help develop critical thinking skills relevant to sterile processing*
4. *Review how to begin working to develop this skill.*

SELF-STUDY SERIES

Critical thinking

by Sandy Reilly BSBM, CRCST, CHL and Don Williams, CRCST, CFER, CIS, CHL

We often hear that critical thinking should be instilled in teams to minimize errors and bring about efficiency. But do we fully understand what this means, and how to instill, develop, and support the use of this skill set within a sterile processing team?

First, a quick story. Not long ago, our department was offered three new full-time positions, and we wanted to bring in strong candidates. Human resources called with twelve individuals who met their criteria for interviewing, and we asked them all to come in on a Friday evening at 5:00 p.m. for their initial meeting. This was their first qualifier. My assistant manager and I divided a set of questions; he handled the technical content and I had personality and background. We quickly reduced the group to six potential members for a second round of questions. My deepest personality question was this. "Can you briefly describe a situation in your life or working experience that changed the reason you do what you do and why you want to work here in sterile processing?" One response has stayed with me.

A young technician coming out of the military gave me this scenario, roughly paraphrased. He was working the evening shift in the sterile processing department (SPD) when the operating room (OR) called. They had a newborn baby on the table and were attempting to do a cut-down to get an IV in without success. Could he come up and help them find an instrument? Entering the room, he took a quick look at the baby, then another quick look at the cut-down set on the table, and immediately knew the problem: the instruments were too large for this procedure. Saying he would be right back, he ran into the core, grabbed another set, and ran back to the room, handing the set to the circulating RN. "A micro-vascular tray?" she asked. He responded: "You'll find the size instruments in this tray that you'll need for that baby."

I could visualize the room, the activity and sense of urgency, as well as his success. I realized I needed his experience on our team. His critical analysis and thinking that night probably saved a child's life—demonstrating critical thinking at its best, in action.

What is critical thinking and how does it apply to sterile processing?

Critical thinking is a developed tool of evaluating information gathered through experience and communication (of all types), as a guide toward action or understanding, across all activities. Or, a little shorter: critical thinking is actively using information and experience to make a decision.

The use of critical thinking during action is greater than a simple and repeated activity as a skill set—in actuality, it is the continuous use of gained knowledge and experience to guide the decision process during activities. True critical thinking has no end point.

Depending on the size of your facility and surgical suite capacity, your SPD may see anywhere from several dozen instrument trays to several hundred instrument trays each day, bringing the instrument potential well into the thousands. Instrumentation has become increasingly more complex, with extended disinfection and reprocessing steps, including manual cleaning, sonic treatments, and automatic washer disinfection, all required for complete cleaning and disinfection. Then follows the inspection, assembly, sterilization, and distribution to complete the daily life cycle of an instrument set. With an increase in steps comes a greater probability for error and human factor failures. Strong critical thinking skills lead individuals toward a correct decision sequence.

In 2012, the Emergency Care Research institute (ECRI), one of the most respected independent healthcare practice research groups in the world, published *Sterile Processing Department's Role in Patient Safety* (www.ecri.org/pso, August 2012, Vol 4, No 3). Their "top ten essentials for effective instrument cleaning," includes a list of steps that help develop critical thinking, including adequately trained staff, simplifying procedures, seeking input from reprocessing department staff, requiring competency assessment, fostering collaboration, and recognizing staff contributions.

ECRI's Patient Safety Organization continues within this article to identify solutions developed at the Johns Hopkins Hospital to minimize errors related to complicated cleaning and disinfection instructions from various manufacturers by creating a one

page quick-reference sheet with manual cleaning instructions for about 100 categories of medical devices. The goal was to standardize and use consistent language that would be easiest for all staff to understand.

Within this article, Gail Horvath, MSN, BS, RN, CNOR, CRCST, patient safety analyst at ECRI Institute, reiterates: "AAMI's guidelines on steam sterilization recommend that healthcare facilities require, as a condition of employment, that sterile processing personnel successfully complete a central service certification examination within two years of employment and maintain the certification throughout their employment. Certification demonstrates that staff have the knowledge and critical-thinking skills to perform their jobs."

A component of the ECRI Patient Safety Organization recommendations suggests that hospitals and teams should learn from events through a reviewing process. Identify the factors that may have contributed to a situation, not those related to individuals. Then discuss prevention strategies for all to be aware of. Inclusion during a situation review in a safe culture of respect will demonstrate the importance of learning and strengthen a commitment to safety and outcomes.

> *Students, (team members), can only make informed choices about what they need to know, how they can know it, and how they can know that they know it, on the basis of as full as possible an understanding of the learning terrain they are being asked to explore.*
>
> ***—"The Getting of Wisdom: What Critically Reflective Teaching Is and Why It's Important," Stephen Brookfield***

How would you describe a critical thinking team member?

In his book "Developing Critical Thinkers: Challenging Adults to Explore Alternative Ways of Thinking and Acting," Stephen D. Brookfield provides us with five characteristics of critical thinking, how to look for them in others and how to help team members develop these traits. These five traits are:

1. Critical thinking is a productive and positive activity.
2. Critical thinking is a process not an outcome.
3. Manifestations of critical thinking vary according to the contexts in which they occur.
4. Critical thinking is triggered by positive as well as negative events.
5. Critical thinking is emotive as well as rational.

Combine these traits to picture critical thinking in action in individuals:

- **Habitually inquisitive, positive and productive:** these team members are active, engaged in the workflow. They may often be looking to improve a situation or process, although they may not always involve others.
- **Diligent in seeking data, recognizing that critical thinking is a process:** these thinkers may continue to evaluate and search for confirmation of the decision or improvements to the process. Questioning the process is not disapproval as much as a search for confirmation or seeking to continue improvement.
- **Focused in inquiry, questions will create more questions:** team members may develop their own path of thinking and evaluate each other's data. Their environment, or contexts, require individual considerations. Two critical thinkers may arrive at varying conclusions, and move forward evaluating each other's data.
- **Prudent in making judgements:** a critical thinking process may be initiated by either a negative event or a positive result, both are worthy of study and analysis. The first to identify aspects to correct or avoid and the latter to study the process for duplication or improvement.
- **Diligent and orderly in seeking criteria is a complex process that can be both analytical and emotional:** lines of questioning, investigation, and analysis may be documented and critical, while at the same time being driven by an emotional need for an answer. Both the process and outcome can create a true sense of enjoyment.
- **Trustful of reason and open-minded, and fair minded and honest in facing personal biases:** critical thinking as a process should be a social experience. Involving partners, friends, colleagues, and counterparts. The opportunity to express your thoughts, share information gathered, to hear the spoken interpretation of research, gives substance to the beliefs and assumptions. A safe culture of respect and dialogue is a key component to critical thinking.

What tools can we bring to our teams to strengthen their thinking and engage them in strategic development and improvement? What about those team members who can't seem to find a reason to participate in the critical thinking goal—those who ask, "what's in it for me?"

In her article, "Active Learning Strategies to Promote Critical Thinking," Stacey Walker reminds us that "possession of knowledge is no guarantee for the ability to think well but that an individual must desire to think." She attributes this statement to John Dewey as far back as 1910 from his original work on education and thinking.

Ms. Walker goes further and helps us remember how to improve thought process and stimulate dialogue by improving the quality of the questions posed to the teams, using Bloom's Taxonomy of thought to help create questions moving from simple to complex.

When members become engaged in the activities of critical thinking, the benefits of the process, social dialogue and successful problem solving help to bring about a stronger work environment and involved team members, with an added goal and benefit of a safe dialogue work space.

Ms. Walker brings these points up for additional thought: "The spirit or disposition to think critically is, unfortunately, not always present in all students," she writes. However, she also informs us that following introduction to quality questioning and debate, students improve their search techniques, weighing risk and making evidence-based decisions. The construction of your questions and the manner in which they are delivered can bring about an inquisitive response activity or could lead to a shutdown or nonparticipation.

The Situation Analysis Outline

Let's look at a tool used by the military that can easily be transformed into a simple review stimulating improvement and team building. That tool is called situation analysis. Defined as a process to examine the elements and relationship of a specific activity, it can be used to discuss a recent event, define the parameters of the event, review the actions, discuss options, and consider outcomes from action or lack of action. In a military activity, this would be called SWOT, or strength, weakness, opportunities, and threats.

A simple tracking tool will include these criteria:

1. situation description, simply stated facts identifying the activity
2. actions taken during the activity and outcome of these actions
3. opportunities for optional actions and potential outcomes from options
4. outcomes from failure to act or weak actions taken

Use this tool as a team-building discussion, identify a short period of time, such as during a shift change report or team meeting. Invite the individual who identified the situation to present it to the team

Self-Study Test Answers: 1. A, 2. B, 3. A, 4. B, 5. A, 6. A, 7. B 8. A, 9. B, 10. A

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and open the discussion. Set a time limit, possibly as brief as 10 to 15 minutes, for the discussion and seek active participation from your team for activities, options, and weaknesses from failure to develop quality actions. Keep track of these situation analysis activities, copy the tracked situation tool, and have these available for all staff to review.

How will this develop critical thinking? Let's look again at what we expect during critical thinking.

- Critical thinking is best achieved through social activity.
- Use of a defined process, a search for specific information to review.
- Thinking developed within the environment from either a negative or positive event.
- Open questioning to identify successful action without positioning blame.

Situational Analysis	Date
Situation Statement:	Actions taken during situation:
Option identified during disussion group:	Potential outcomes from both action and inaction:
Identified opportunity:	

Situational analysis in department use

Don Williams, CRCST, CFER, CIS, CHL

I recently used situation analysis in an issue with a sterilization cycle. It assisted the leadership team in identifying and correcting a quality event. It allowed us to work through it quickly and efficiently. We identified the key indicators of what happened during the event. Once we identified what happened, we began to deconstruct the actions taken through the entire process. During this discussion, items or processes were identified that led to our issue. This was a great way, within a reactive environment, to identify our steps and areas needing improvement moving forward.

We were able to identify opportunities in streamlining our processes within the department to better serve our customers. I am looking forward to using this practice moving forward within the department and with the ORs our department supports as a continual process improvement for our practices and get the staff engaged in being key stakeholders in ownership of change in a more proactive manner. The situational analysis cards are a great tool for use on a daily basis.

Cross-environment understanding project

This project takes resources and your team members' time, as well as communication with your customers and the operating room team.

The ***Overview*** is for each SPD technician to observe surgical procedures and, while there, ask questions with each key team member, scrub technician, circulating nurse, and surgeon. Then return to the department and provide a review of the answers and procedure to the team.

The ***Rationale*** is for every SPD team member to broaden their knowledge of the instrument use, the tray setup and use of components and introduce the surgeons to the relationship of SPD to their tools.

The ***Goal*** of this project is to broaden of each technician's understanding of the instruments they prepare (how they are used, how they become contaminated, and how the sets are configured).

Using this opportunity to help technicians make decisions about, for example:

1. Which are the most complex instruments and how would they collect bioburden we need to be aware of during cleaning and decontamination?
2. Which sets have more instruments than we feel are needed or are ever used on the sterile field? How would you modify those sets if you had the opportunity?
3. How would you like to see the case cart prepared, and are there instrument sets pulled that get opened but not often used?
4. What information can I bring back to SPD and to our team that would help us make your efforts easier for each procedure?

This project is successful when full cross-communication helps to develop the strategy. Prior to initiating this project, develop the plan with your OR manager and have communication with the OR team. One possible way of introducing the project is during the morning shift report. Both OR and SPD management teams present to describe the overview, rationale, goal, and process.

How does this project fit into development of critical thinking skills? This should be discussed with your SPD team prior to sending them into the active project. As we have learned, critical thinking is best developed as a social activity. Bringing observations back to the SPD team and sharing the experience of the day is the beginning. The second level is broadening the understanding of the environment in which they work. These experiential tools work as background tools when future decisions will need to be made.

In closing

During personal communication with Stephen Brookfield, PhD, a professor at St. Thomas University in Minneapolis, MN, I asked about the various levels of participation towards active critical thinking and teaching the skills needed to critically think.

I told him that I agree there are varying levels of appetite/readiness, despite the rhetoric we hear regarding how important it is. In my experience, the best way to build commitment is for managers and supervisors to model the process for employees first, and to be very explicit about what they're doing. I also believe that the best way to initiate a change process is to start off with a powerful narrative example of critical thinking—not a set of 'good reasons' for doing it.

Developing critical thinking is a continuous process. Learning to think about how we think is a developed skill, made stronger by practice. Remember the questions a critical thinker asks: What is happening? Why is it important? What don't I see? How do I know? Who is saying it? What else? and What if?

Allow your team to ask questions. Invite them to search for the solutions and for additional information, help each critical thinker expand their practice. Ask teams to come together to use the situation analysis tool, to have open dialogue about information identified as critical to defining improvement steps. Allow them to bring these to your entire team in open dialogue in search of more information in an effort to separate opinion and false information from useful data.

Have open dialogue with your team around the goals of project efforts and ask them to keep in the front of their thoughts the end goal of any critical thinking development tool within your hospital work environment: continuous quality improvement to bring safer outcomes for every patient. HPN

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CONTINUING EDUCATION TEST • AUGUST 2017

Critical thinking

Circle the one correct answer:

1. **Critical thinking is a developed tool of evaluating information gathered through experience and communication.**
   A. True B. False
2. **Critical thinking has a definitive end point.**
   A. True B. False
3. **An increase in complexity within SPD leads toward higher probability of error.**
   A. True B. False
4. **Critical thinking is only triggered by negative events.**
   A. True B. False
5. **Questioning a process may not be a sign of disapproval, it could be seeking confirmation or a continued search for improvement.**
   A. True B. False
6. **Being fair minded towards others' opinions and facing our own personal biases is a characteristic of critical thinking.**
   A. True B. False
7. **Developing your critical thinking skills is only a personal goal, there are no benefits to your team, department or patients.**
   A. True B. False
8. **"Possession of knowledge is no guarantee for the ability to think well, but that an individual must desire to think."**
   A. True B. False
9. **A situation analysis is a detailed examination of an event and should be completed by only management and risk analysis.**
   A. True B. False
10. **A safe culture of respect and dialogue is a key component of critical thinking.**
    A. True B. False

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